

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION

SINGAPORE ASAHI CHEMICAL &  
SOLDER INDUSTRIES PTE LTD,

Plaintiff,

VS.

APPLE INC.,

Defendant.

CASE NO.

JUDGE

## DEMAND FOR JURY TRIAL

## COMPLAINT

Plaintiff, Singapore Asahi Chemical & Solder Industries Pte Ltd (“Asahi” or “Plaintiff”), by and through its counsel, files this Complaint against Defendant, Apple Inc. (“Apple” or “Defendant”), for patent infringement in connection with the manufacturing, use, sale, offering for sale, and importation of certain products containing a lead-free solder, and hereby avers as follows:

## NATURE OF THE ACTION

1. This is an action for infringement of U.S. Patent No. 6,176,947 for “Lead-Free Solders” (“the ‘947 Patent”), issued January 23, 2001, and assigned to Asahi. A copy of the ‘947 Patent is attached hereto as Exhibit A.

### **THE PARTIES**

2. Plaintiff, Asahi, is an international corporation existing under the laws of Singapore, and has a principal place of business at 47 Pandan Road, Singapore, 609288, Singapore. Asahi is a global manufacturer and distributor of high-quality solder products and related soldering chemicals.

3. Defendant, Apple, is, on information and belief, a corporation existing under the laws of the State of California, and having a principal place of business at 1 Infinite Loop, Cupertino, California 95014.

4. The actions and conduct complained of herein accrued in the State of Ohio, and elsewhere throughout the United States.

### **JURISDICTION AND VENUE**

5. This is an action arising under at least the patent laws of the United States, 35 U.S.C. § 271 *et seq.*, seeking damages and injunctive relief. This Court has subject matter jurisdiction over this controversy under 28 U.S.C. §§ 1331 and 1338.

6. This Court has personal jurisdiction over Apple under the provisions of the Ohio Long Arm Statute, Ohio Rev. C. § 2307.382, and the laws of the United States. Upon information and belief, Apple transacts business within the State of Ohio and within this District, directly or through intermediaries via the Internet or otherwise, including by (i) conducting at least a portion of the infringement alleged herein, and/or (ii) regularly doing or soliciting business in Ohio, maintaining continuous and systematic contacts in Ohio, purposefully availing itself of the privileges of doing business in Ohio, and/or deriving substantial revenue from goods and/or services provided to individuals in Ohio, such business, services, and goods relating to products

containing the patented lead-free solder, which has caused and continues to cause injury to Plaintiff in Ohio based on Apple's infringement within and beyond the State of Ohio.

7. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1400 because Apple transacts and does business in this district, and has committed acts of infringement in this district by, among other things, manufacturing, using, selling, offering for sale, and importing certain products that embody one or more of the subject matters claimed in the '947 Patent. Further, Apple has numerous regular and established places of business in this district. For example, upon information and belief, Apple maintains several retail stores and employs numerous individuals at each of the following locations:

- 3265 W Market Street, Fairlawn, Ohio 44333
- 5001 Monroe Street, Toledo, Ohio 43623
- 267 Crocker Park Boulevard, Westlake, Ohio 44145
- 28849 Chagrin Boulevard, Woodmere, Ohio 44122

### **FACTUAL BACKGROUND**

8. On October 12, 1999, U.S. Patent Application No. 09/417,169 entitled "Lead-Free Solders" ("the '169 Application") was submitted to the United States Patent and Trademark Office ("USPTO"), naming Jennie S. Hwang and Zhenfeng Guo as co-inventors (collectively "the Co-Inventors"). The Co-Inventors, who were both residents of the Northern District of Ohio, assigned their rights in the '169 Application to H-Technologies Group, Inc., a corporation that was registered in the State of Ohio on May 26, 1994.

9. The '169 Application matured into the patent-at-issue, the '947 Patent, which was duly and legally issued by the United States Patent and Trademark Office ("USPTO") on January 23, 2001.

10. On March 23, 2002, the '947 Patent was assigned to Plaintiff, Asahi, and was shortly thereafter recorded with the USPTO at Reel/Frame 012896/0485.

11. The '947 Patent is generally directed to solder alloys with improved physical and chemical properties that comprise effective amounts of tin, copper, silver, and bismuth. At the time of the invention, the Co-Inventors recognized that traditional lead-tin solder alloys "face[d] a limited future due to lead toxicity and the control or prohibition of the use of lead on a global landscape." As a result, high strength and high fatigue resistance solder alloys were developed to meet the increasing level of performance needed in solder joints as required by the continued advancements in integrated circuit ("IC") and IC package technologies. Among those alloys developed are those which are covered by the '947 Patent.

12. Independent claim 10 of the '947 Patent reads as follows:

**10. A lead-free solder alloy consisting essentially of 76% to 96% Sn, 0.2% to 2.5% Cu, 2.5% to 3.5% Ag, and 0.5% to 5.0% Bi.**

13. Upon information and belief, at least as early as 2016, Apple has been and continues to be actively engaged in the manufacture, use, sale, offering for sale, and importation of a wide-range of consumer electronics, such as mobile phones, tablet computers, personal computers, digital media players, smartwatches, speakers, and the like ("Apple Products").

14. Asahi is informed and believes, and thereupon alleges that Apple is selling certain consumer electronics that incorporate the claimed technology of the '947 Patent ("the Infringing Products").

15. Asahi is informed and believes, and thereupon alleges that the solder alloy used in the Infringing Products embody one or more of the subject matters claimed in the '947 Patent referred to above without any license thereunder, and thereby infringes the '947 Patent. In

particular, solder alloy used in at least the iPhone 7, iPhone 7 Plus, iPhone 8, and iPhone 8 Plus embody subject matter recited in claim 10 of the '947 Patent without any license thereunder, and thereby infringes at least claim 10 of the '947 Patent.

16. Upon information and belief, the solder alloy used in one or more additional Apple Products, including, for example, the iPhone X, embody subject matter recited in claim 10 of the '947 Patent without any license thereunder, and thereby also infringes at least claim 10 of the '947 Patent.

17. Asahi is informed and believes, and based thereupon alleges that Apple has sold and continues to sell or offer for sale the Infringing Products to consumers through its physical stores within this judicial district and the State of Ohio, to various retailers and distributors within this judicial district and the State of Ohio, such as Best Buy, Target, Verizon, and AT&T, and to consumers within this judicial district and the State of Ohio through at least its website ([www.apple.com](http://www.apple.com)).

18. Apple has received written notice of Asahi's proprietary rights in the '947 Patent by way this lawsuit. Further, Apple has received written notice of Asahi's patent by way of correspondence from the undersigned counsel at least as early as July 14, 2017. Despite such previous written notice, Apple continues to infringe Asahi's patent rights.

19. On information and belief, such infringement by Apple has been willful and wanton, making this case exceptional under 35 U.S.C. § 285.

20. Asahi is informed and believes, and thereupon alleges that the sale of the unauthorized, Infringing Products has suffered damages in an amount not yet fully determined.

**CLAIM FOR RELIEF**  
**PATENT INFRINGEMENT (U.S. PATENT NO. 6,176,947)**

21. The foregoing allegations are incorporated by reference and reasserted as though fully set forth herein.

22. Asahi is the owner of the '947 Patent. The '947 Patent is valid, enforceable, and unexpired.

23. In violation of 35 U.S.C. § 271(a), Apple has infringed and continues to infringe the '947 Patent, literally and under the doctrine of equivalents, by making, having made, using, selling, offering for sale, and/or importing, without authority, the Infringing Products.

24. Apple's actions as alleged herein are without right, license, authorization, permission, or consent under the '947 Patent by Asahi.

25. Apple is informed and believes, and thereupon alleges that Apple has willfully infringed upon Asahi's exclusive rights under the '947 Patent, with full notice and knowledge thereof.

26. Upon information and belief, Apple has derived, received, and will continue to derive and receive from its acts of infringement, gains, profits, and advantages in an amount not presently known to Asahi. By reason of these acts of infringement, Asahi has been, and will continue to be, greatly damaged.

27. Asahi is entitled to treble damages and reasonable attorneys' fees.

28. Apple's infringement has been in willful disregard of Asahi's patent rights, making this case exceptional under 35 U.S.C. § 285.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff, Asahi, prays:

- (a) The Defendant, Apple, be adjudicated to have infringed the valid and enforceable Asserted Patent, which is owned by Plaintiff Asahi;
- (b) For an assessment and award of damages against Defendant Apple in an amount no less than a reasonable royalty or Defendant Apple's profits derived from its infringement of Plaintiff Asahi's patent rights, pursuant to 35 U.S.C. §284;
- (c) The Defendant, Apple, be adjudicated to have willfully infringed the '947 Patent, and treble the amount of damages awarded to Plaintiff Asahi pursuant to 35 U.S.C. §284;
- (d) For a determination that this is an exceptional case and award Plaintiff Asahi's attorneys' fees pursuant to 35 U.S.C. §285; and
- (e) For such other and further relief as may be just and appropriate.

Respectfully submitted,

Date: 7/18/2018

s/Jude A. Fry  
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Singapore Asahi Chemical & Solder  
Industries Pte Ltd.

**DEMAND FOR A JURY TRIAL**

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiff Singapore Asahi Chemical & Solder Industries Pte Ltd hereby demands a jury trial on all triable issues.

Respectfully submitted,

Date: 7/18/2018

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